

Amendments to the Specification:

Please replace the paragraph beginning on page 1, line 34, with the following rewritten paragraph:

It is an object of the invention to prevent the wrong detection of a gas leak.

Please replace the paragraph beginning on page 2, line 27, with the following rewritten paragraph:

Accordingly, this fuel cell system can distinguish between the decrease in the pressure due to permeation of hydrogen gas through the electrolyte membrane to the air electrode side in the fuel cell, and the decrease in the pressure due to leak of hydrogen gas. Thus, it is possible to prevent the wrong detection of a gas leak.

Please replace the paragraph beginning on page 7, line 16, with the following rewritten paragraph:

The gas leak detection method thus configured has the same effects as those of the fuel cell system according to the first aspect of the invention. Therefore, it is possible to prevent the wrong detection of a gas leak.

Please replace the paragraph beginning on page 16, line 5, with the following rewritten paragraph:

Accordingly, in the fuel cell system 10, a decrease in the pressure due to permeation of hydrogen gas through the electrolyte membrane of the fuel cell 20 to the air electrode side is prevented from being wrongly determined as a decrease in the pressure due to abnormality such as a hole in the electrolyte membrane. Accordingly, it is possible to the prevent wrong detection of a gas leak.

Please replace the paragraph beginning on page 20, line 17, with the following rewritten paragraph:

The pressure on the hydrogen electrolyte side becomes negative pressure due to permeation of hydrogen through the electrolyte membrane at a normal time when there is no hole in the electrolyte membrane. Meanwhile, when there is abnormality such as a hole in the electrolyte membrane, the pressure on the hydrogen electrode side is not likely to become negative pressure. In the fuel cell having the aforementioned configuration, it can be determined whether the minimum pressure value is lower than the predetermined value P0 by comparing the minimum pressure value and the predetermined value P0. Accordingly, in the fuel cell system according to the second embodiment of the invention, the decrease in the pressure due to permeation of hydrogen gas through the electrolyte membrane to the air electrode side is prevented from being wrongly determined as the decrease in the pressure due to abnormality such as a hole in the electrolyte membrane. Thus, it is possible to prevent the wrong detection of a gas leak.

Please replace the paragraph beginning on page 24, line 16, with the following rewritten paragraph:

(8) In the first embodiment and the modified examples thereof, when the fuel cell 20 is operated, the shutoff valves 60, 62 are closed, the pressure change speeds are obtained at two time points during the period since the pressure P starts to decrease until the pressure P starts to increase, and the pressure change speeds are compared with each other, whereby leak of hydrogen gas is detected. Instead, the configuration may be as follows when the fuel cell 20 is started. First, when the fuel cell 20 is started, the shutoff valves 60, 62 are closed. Then, the shutoff valve 60 is opened, pressure is applied to the hydraulic passage in the fuel

cell until the value of the pressure sensor 66 reaches a first pressure value (for example, a value which is higher than the reference atmospheric pressure value by 50 kPa). When the value of the pressure sensor 66 reaches the first pressure value, the shutoff valve 60 is closed. Then, a pressure change speed dP11 of the pressure value detected by the pressure sensor 66 is obtained (the detection may be performed immediately after the pressure is applied to the hydraulic passage, or after a predetermined time elapses). Subsequently, the shutoff valve 60 is opened, and pressure is applied to the hydraulic passage in the fuel cell until the value of the pressure sensor 66 reaches a second pressure value (for example, a value which is higher than the reference atmospheric pressure value by 100 kPa). When the value of the pressure sensor 66 reaches the second pressure value, the shutoff valve 60 is closed. Then, a pressure change speed dP12 of the pressure value detected by the pressure sensor 66 is obtained (the detection may be performed immediately after the pressure is applied to the hydraulic passage, or after a predetermined time elapses). Then, as in the first embodiment, the two pressure change speeds dP11, dP12 are compared with each other, whereby leak of hydrogen gas is detected. With this configuration, it is possible to prevent the wrong detection of a gas leak as in the first embodiment.